# AIS INVESTMENT GUIDE

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\* HYD is a hypothetical model based on backtested results. See p.86 for full explanation.

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### **Don't Leave Your Savings to Chance**

Economics is a social science. Unlike researchers in the natural sciences, economists generally do not have the luxury of conducting controlled experiments. Instead research is based on data observed in actual markets as it is generated. Among the challenges this poses is the ability to distinguish meaningful outcomes from those that occur simply due to chance. This is a vexing problem in particular for investors who are inundated by money managers claiming to have the skills necessary to beat the market.

The "infinite monkey theorem" is often cited as an extreme example to make the point. If enough monkeys were to type randomly on typewriters for an adequate amount of time, one would eventually type the Old Testament in its entirety, strictly by chance. But having identified the monkey that accomplished this, it would hardly be prudent to bet that the same monkey would then go on to reproduce the New Testament!

There are thousands of mutual funds, hedge funds, pension funds, brokers and others employing their skills every day in the hope of providing above-average returns. Many successfully exceed the returns of the overall stock market, even for extended periods of time. But it would be folly to conclude without further analysis that any of these outcomes were a result of skill.

In this article we describe how statistical reasoning can help cast a light on the performance of money managers in a world of chance outcomes, and also to help investors follow

(continued next page)



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an alternative approach to portfolio management based on a rational assessment of risk and return rather than chasing performance.

### **Risk versus Skill**

Even before addressing the question of chance, it is important to measure a money manager's returns in light of the risk he is assuming. In our view certain asset classes, notably small cap and value stocks, provide expected returns greater than those of the overall stock market. They also carry greater risk.

The Fama-French three-factor regression model<sup>1</sup> can be used to dissect the actual performance of an actively managed investment portfolio, assuming a performance history of adequate length is available. In particular, this model allows us to measure the extent to which a U.S. equity mutual fund has provided exposure to three sources of risk for which equity investors can expect to be compensated: overall market risk, size (small cap versus large cap stocks) and value (high book-to-market stocks versus low book-to-market stocks). Very often this exercise reveals that a manager who appears to have outperformed the overall market through skill has in fact only earned higher returns by subjecting investors to the greater risk inherent in small cap and / or value stocks. Unfortunately many funds will simply advertise very high historical returns, without acknowledging this risk exposure (beyond the mandated general risk disclaimers) while charging a very high fee for their supposed talent.

This three-factor model is therefore a useful first step in assessing alleged investment skill because it eliminates from consideration those managers who have generated above-market returns only by exposing investors to greater risk. However, there are funds that indicate skill may be evident, even after accounting for the risk a manager is assuming. This is indicated when we observe that a fund has provided positive alpha ( $\alpha$ ), a statistical measure of outperformance relative to a benchmark such as the overall market or the three-factor model. However, while positive alpha could suggest evidence of skill, it is far from conclusive. The prudent investor will further investigate whether this alpha might have been generated simply as a result of chance.

### Alpha and Chance

The concept of statistical significance is essential to distinguish skill from chance. Historical data is all we have to estimate our expectations of the future. Though past data provides an actual outcome, it is in fact only one of many possible outcomes that might have been generated by capital markets. Therefore, we can never know a fund's "true" alpha. Having identified a fund with positive alpha over a particular period an investor should therefore ask whether he can be confident that the fund's true alpha is significantly different from zero. Specifically, he should consider the t-statistic (t-stat) that is applicable to the alpha generated by the fund (see accompanying box for more detail regarding the t-stat).

An investor can be 95 percent confident that a fund's true alpha is not in fact zero (with zero indicating no skill

There is no reason to pay an active manager for his alleged skill if he is actually just buying stocks that bear greater risk. Investors who are willing to accept this risk-return trade-off can do so far more accurately, and cost effectively, if they instead adopt a deliberate strategy that targets these sources of risk and expected return through the index-type funds we recommend.

at all) if the fund's historical alpha has an associated t-stat greater than two. For example, the Fidelity Select Retail fund had the highest alpha among actively managed U.S. equity mutual funds when ranked by their alpha over the three years ending September 2011.<sup>2</sup> The fund boasted an impressive alpha of 15.44 percent. However, in order to evaluate whether this might simply be an outcome due to chance, we need to take a closer look at the statistical significance of this result by considering its t-stat.

We examined the fund over a longer time period (ten years) and accounted for any additional returns that we would expect it to earn considering its exposure to small cap and value stocks. After these adjustments the fund's monthly alpha was still positive but highly variable so the t-stat for the alpha was only 1.21. This is well below the t-stat of 2 that would give us comfort, at a 95 percent level of confidence, that this was not simply a chance outcome.

How many years of data *would* be required to meet this threshold of confidence? Since we can observe the fund's alpha and the variability of its alpha (measured by standard deviation) we can make this determination. It turns out that 44 years of data are required in order to be 95 percent certain that this fund's apparently stellar performance was not in fact simply a result of chance. This is especially sobering considering the current manager of this fund has been calling the shots for only 20 months!

Table 1 depicts the track record required to assess statistical significance, assuming a variety of hypothetical levels of alpha and associated volatility. Note that the number of years required decreases as a manager's "excess return" (alpha) increases, and as the uncertainty of that return (volatility measured by

standard deviation) decreases.

A mutual fund that outperformed its benchmark by an average of two percent per year net of fees would probably be attractive to most investors.<sup>3</sup> Suppose you located such a fund, and further assume the standard deviation of the alpha for the fund was equal to 6 percent (the standard deviation of the median fund among all U.S. equity funds with positive alpha, when ranked by their alpha, is 5.5 percent). An investor considering this fund would need 36 years of data

to be 95 percent confident that its true alpha is not actually zero. But the average annual tenure of U.S. equity fund managers is only 5.6 years – so by the time an investor can be reasonably well assured he has identified a skilled manager, the manager may well be retired or have left the fund!

But even if we are 95 percent confident that we have identified a skilled manager, we cannot completely rule out the possibility that his outperformance was due to chance. For example, there are 4,491 funds in the entire U.S. equity mutual fund universe. This means that there are 112 mutual funds that can be expected to provide a historical positive alpha with a t-stat greater than two,

### The t-stat: Measuring Significance

The t-statistic, "t", or "t-stat" is calculated as follows:

t = Average / (Standard Deviation /  $\sqrt{N}$  )

Where:

**Average** = average alpha ( $\alpha$ ).  $\alpha$  is a measure of outperformance (or "excess return") relative to a benchmark such as the overall market, or the Fama-French three-factor model.

**Standard Deviation** = Standard deviation of  $\alpha$  (a large standard deviation indicates a highly variable  $\alpha$ ).

N = number of observations

The larger the resulting t-stat, the more confident we are that the fund's true alpha is not equal to zero. Note that the greater our average  $\alpha$  is, and the greater the number of return observations we have (N) the more confident we are that true  $\alpha$  is not in fact zero. Conversely the more variable  $\alpha$  is (standard deviation) the less certain we can be that  $\alpha$  is not in fact zero.

Solving for N above yields:

$$N = \left(t * \frac{\text{Standard Deviation}}{\text{Average}}\right)^2$$

The values in Table 1 are generated from this equation by setting t = 2 (to provide a 95% confidence interval) and allowing for various hypothetical levels of  $\alpha$  and standard deviation. The more variable our observed alphas are, and the lower our average alpha is, the longer is the track record that will be required in order for an investor to confidently attribute any apparent outperformance to skill.

even if their true alpha is zero (i.e. even if they have no skill). But recent research suggests the challenge for skill-seekers is even greater; a 2010 study compared the returns of all the funds in the U.S. equity universe with those of a simulated universe of funds in which the true alpha of every fund was zero. The authors found fewer actual funds with statistically significant alphas than would be predicted by chance.<sup>4</sup>

### **Desperately Seeking Methuselah**

Even if you are comfortable investing money with a manager who has demonstrated statistically significant alpha, you still might be relying on a chance outcome, because you have drawn inferences from a data set limited to a particular time period. To be thorough, academics typically take another step by conducting out-of-sample tests in different time periods or in different markets in order to confirm a statistically significant result.

A common method of verifying investment performance is to use independent time periods. For example, having found a statistically significant outcome in the U.S. between 1985 and 2011, a researcher might repeat the same experiment using data from a prior period, such as 1960 through 1984.

Let's return again to our example from Table 1. Suppose you have found a manager who has produced statistically significant, positive alpha of 2 percent per year with a standard deviation of 6 percent. How much time in total will be required if we want to test out of sample performance? If you are comfortable with the minimum of just one additional time period, you must multiply the number of years required in Table 1 by two. Therefore you would need 72 years of data to be comfortable you have not just stumbled across a lucky fund manager. We are now well past not only the manager's retirement, but probably his (or your) remaining life expectancy as well!

### Will it Continue?

Suppose you have identified a manager who has outperformed your benchmark handily and you have determined he has not done so simply by assuming greater risk (which you could have done on your own). Let's further assume that he has also generated statistically significant, positive alpha and has repeated the trick in independent time periods. We will even allow that he is still living and running the same fund. Sounds like your hard work has paid off and you have found an investment genius, right?

Unfortunately, there still is no assurance you have picked a future winner. Persistence studies indicate that past winners do not continue to win even when there is positive alpha in the extremes,<sup>5</sup> though there is some evidence that extreme underperformers tend to underperform in subsequent periods because of high fees and turnover. Big time losers might persist, big time winners do not.

Despite overwhelming evidence that winners rarely repeat, it is common practice for investment committees and individuals to select only managers whose overall performance is in the top half or top quartile of all performers, and to replace those managers when they lose that status. This is a losing strategy. These studies of persistence show that even when perennial losers are eliminated, the most recent top quartile performers have the same 25 percent chance of remaining in the top quartile as managers in the bottom 75 percent.

### No One Gives it Away

It is worth considering why there is scant evidence of skill. Economics teaches us that scarce resources capture any rents.<sup>6</sup> In the case of investment talent, we can expect that the money manager's skill will capture the rent.

Suppose you have found a manager who has outperformed the market by 3 percent each and every year for the past 25 years. This means that the volatility of the fund's excess return is zero. This would constitute overwhelming evidence of managerial skill. But it also means that as soon as his ability became apparent the manager could increase his fee by just-under 3 percent as his fund gained attention, so his alpha, net of fees, would disappear. The value of his skill would not accrue to investors, but to himself. Alternatively, if he kept his fee low, new investors would beat a path to his door and any alpha would be distributed over an ever-increasing number of investors. In either case, alpha would be driven to zero.

Active Management or "Follow the Leader"	Prudent Risk Management
	1. Identify asset classes: isolate sources of compensated risk
<ol> <li>Hire managers who have outperformed in the past</li> <li>Fire managers who underperform in the future</li> </ol>	2. Assign portfolio (percent) weights to asset classes based on your needs and risk tolerance
3. Repeat	3. Identify the most cost-effective, well-diversified invest- ment vehicles for capturing asset class returns
	4. Rebalance as needed to maintain portfolio weights

### **The Takeaway**

We would like to think that if we only work hard enough we can employ statistical reasoning to find, with certainty, managers who are skillful. But the fact is, even finding a manager who might be skilled requires decades of data, and even then you can never be absolutely certain that a manager's apparent talent was not in fact attributable to chance. Even if somehow you managed to identify skill in advance you probably could not benefit because any excess returns would be absorbed by fees or diluted as other investors were drawn in.

Eminent scholars in the field of finance have spent their careers sifting through historical data in search of evidence that anyone can consistently outperform the market on a risk-adjusted basis. They have turned up very little despite having access to the best data and the latest research. We submit that an individual investor who pores over stock tables or screens commercial databases in hopes of finding the next investment genius stands little chance of success.

Fortunately such efforts are not necessary. Capital markets furnish all you need to meet your financial goals. The statistical tools we described are highly effective in measuring risk and expected return. These methods have revealed sources of compensated risk which can be purchased in measured doses consistent with your circumstances and preferences. The Investment Guide is designed to help you build a portfolio designed for growth, while providing a level of stability that lets you sleep at night. For investors who seek professional guidance, we can also help to create and maintain portfolios through our advisory services. For more information contact us at 413-528-1216 or info@americaninvestment.com.

## Table 1: Minimum Track Record (years required)for a Statistically Significant Alpha (α)

		Ave	rage Alpha (	Hypotheti	cal)
		1%	2%	3%	4%
Standard Deviation	4%	64	16	7	4
of Alpha	6%	144	36	16	9
(Hypothetical)	8%	256	64	28	16

1 For an overview of this model see "HYD and Multifactor Investing" Investment Guide, August 31, 2006, p. 60.

4 Eugene F. Fama and Kenneth R. French, "Luck Versus Skill in the Cross Section of Mutual Fund Returns," Journal of Finance 65, no. 5 (October 2010): 1965–1947. 5 For more on persistence see: "Skill, Chance and Active Management" Investment Guide, February 28, 2010, p.11., Mark Carhardt "On Persistence in Mutual Fund Performance" Journal of Finance 52, no. 1 (March 1997)., Fama and French, "Luck Versus Skill in the Cross Section of Mutual Fund Returns."

6 Economic rent can be thought of as payment for goods or beyond that amount needed to bring the required factors of production (in this case capital) into production.

### **GOLD AND DEFLATION: WHAT INVESTORS NEED TO KNOW**

The recent drop in the gold price serves as a reminder that gold is an extremely volatile asset class. However, gold is very useful when held in reasonable proportion alongside several other asset classes within a portfolio that is rebalanced periodically. We have demonstrated repeatedly that this steady, time-tested approach should be maintained regardless of economic recession or expansion, or the prevailing level of price inflation.

In this article, which is adapted from recent research<sup>1</sup> published by our parent, AIER, we examine the implications for investors who hold gold during periods of price deflation.

If gold were valuable to investors during only inflationary periods, then investors would be left with a choice between abandoning gold altogether and trying to time the market to avoid noninflationary periods. All of the

<sup>2</sup> Three year alpha, as reported by Morningstar, Inc. for actively managed U.S. equity mutual funds (U.S. equity funds with at least 90% of assets invested in U.S. equities, excluding index funds and funds with less than10 year history).

<sup>3</sup> Consider that over 20 years \$10,000 invested at an average annual total return of 8% per year would grow to \$46,609. The same amount invested at 10% would grow to \$67,275.

best available research argues that market timing is an exercise in futility. Fortunately, our research presented here indicates that trying to anticipate inflationary and deflationary cycles to make gold purchases and sales is unnecessary. Gold performs well in both environments.

Currently, we are at an unusual juncture in the U.S. economic outlook in which this is useful information. Some economists, looking at the record growth in bank reserves, are predicting much higher rates of inflation in the years to come. Others point to the European crisis and likely recession, the Chinese slowdown, and sluggish growth and deficit issues domestically as the reason they believe we are headed for another recession and a serious bout of deflation.

Measurements of price level changes — inflation and deflation have gone through dramatic changes over the decades and centuries. In colonial times, little consumer expenditure was for services, and much of it was for raw materials to make things at home. In addition, in the past, simple or geometric averages were all that was possible.

Today, indexes are heavily weighted toward service prices, and people mostly buy manufactured goods. Index construction methodologies are very sophisticated because we know how to weight price components to form more representative estimates of price impact on economic activity.

This study looks at the American experience from 1790 to the present. The price measurement data is the wholesale Price Index. This index is one of the oldest time series compiled by the U.S. government constructed on a consistent basis. It was created to satisfy an 1891 U.S. Senate Resolution. The index was extended to the colonial period as part of a special compendium of data that was assembled by the U.S. Department of Commerce in honor of the U.S. Bicentennial in 1976. It was re-named the Producer Price Index (PPI) in 1978.

The PPI measures intermediate or wholesale goods prices. The prices of these goods are more volatile than consumer prices. They also do not exhibit the same long-term rising trend as consumer prices because of the increasing importance of services.

### Chart 1: Gold Prices vs. Wholesale Prices in the U.S., 1790-1970



Chart 2: Gold Prices vs. Wholesale Prices in the U.S., 1970-2011



### Chart 3: Gold Prices vs. Oil Prices in the U.S.



Loosely speaking, deflation is a period of declining prices and is different from disinflation, which is a period of falling inflation rates. But there is no arbiter of the minimum magnitude and duration necessary to declare that deflation has occurred.

This study defines deflationary episodes by looking at periods during which producer prices declined by one standard deviation or more for one year or more. In the U.S., a decrease in prices at the producer level, which exceeds one standard deviation, is a decrease in prices of more than 7 percent.

According to this definition, there were only 12 deflationary events in the U.S. during the 221 years examined. Eight of these occurred in the 19th century. There was one in the late 18th century, only two in the 20th century, and one so far this century.

<sup>1</sup> van Kipnis, Gregory, MBA, Chairman of the Board, American Investment Services, Inc. Gold Also Glitters During Deflations Research Reports (AIER), Vol. LXXVIII, No. 21, December 5 , 2011, p. 1

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The data reveal a dramatic shift, starting around 1949, in inflation/ deflation trends and patterns. From 1790-1949, the annual inflation rate averaged barely 1 percent, yet there was high volatility of nearly 10 percent around that trend. From 1950 to present, the inflation rate has more than tripled, averaging 3.4 percent annually, but with half as much volatility at 4.6 percent.

The shift to higher inflation with less volatility suggests a revision in the identification of deflation events. Instead of a -7 percent hurdle, it suggests that a -9 percent hurdle be used prior to 1949, and a -1.2 percent hurdle be used in more recent times.

This leads to the addition of three more deflation events, all in the post World War II era. All 15 deflationary events are shown in Charts 1 and 2. Chart 1 shows the history of gold prices and producer prices in the U.S. from 1790 to 1970. This takes us from the early days of the nation until the closing of the gold window in the Nixon administration, which led to the end of the post-WWII gold exchange standard. Chart 2 takes us from that time forward. The light green shading shows deflationary periods. On average, across the 15 deflationary events, the purchasing power of gold increased by 31 percent. The average deflation lasted about five years. This implies a simple annual average gain in purchasing power of about 6 percent from holding gold during deflations.

Gold did not appreciate in value during these periods. In some cases, it even declined. But with the exception of 1996-98, cumulative deflation was greater than the decrease in the price of gold.

The unusual events of 1996-98 warrant more careful analysis. Gold's purchasing power plunged by 24 percent, using annual data, while producer prices declined by 2.6 percent.

If we look at monthly data for this episode, the exact period of deflation was from January 1997 to February 1999. During this period, producer prices declined by 5.7 percent and gold prices declined by 19.1 percent. Consumer prices, on the other hand, rose by 3.3 percent. Much of the difference was because of the collapse in oil prices. During this period, crude oil prices fell by 52 percent from \$25.17 to \$12.01 per barrel.

As Chart 3 shows, since the 1973-74 recession, there has been a measurable increase in the correlation between oil

and gold prices. Both have risen. If the fortunes of oil producers are somehow related to major moves in gold prices, then the large decline in gold prices during 1996-98 may be more related to the collapse in oil prices than to the extent of deflation.

AIER found similar results in the U.K., where relevant data extends over 400 years. There the gold price also held up well during periods of deflation. This provides robust out-of-sample support for the same findings in the American economy.

The empirical evidence is clear. Gold is a store of value even during deflations. The purchasing power of gold rises because it does not go down in value to the same extent the price level declines. If you are concerned that deflation is ahead, there is no reason to exclude gold from your portfolio. Investors should continue to devote between five and ten percent of their holdings to gold related assets regardless of the purchasing power environment that might prevail.

		Recon	nmended HYE	) Portfolio		
As of December 15, 20	11				—-Percen	t of Portfolio-—
	Rank	Yield (%)	Price (\$)	Status	Value (%)	No. Shares (%) <sup>1</sup>
AT&T	1	5.97	28.79	Holding**	23.29	23.82
Verizon	2	5.21	38.42	Holding**	25.72	19.71
Merck	3	4.62	36.36	Holding**	23.43	18.98
Pfizer	4	4.16	21.14	Holding**	26.36	36.71
DuPont	6	3.75	43.70	Selling	1.16	0.78
Cash (6-mo. T-Bill)				0	0.05	
Totals					100.00	100.00

\*\*Currently indicated purchases approximately equal to indicated purchases 18 months ago. <sup>1</sup> Because the percentage of each issue in the portfolio by value reflects the prices shown in the table, we are also showing the number of *shares* of each stock as a percentage of the total number of shares in the entire portfolio. Subscribers can find a full description of the strategy and methodology in the "Subscribers Only" (Log in required) section of our website: www.americaninvestment.com.

The total returns presented in the table below represent changes in the value of a hypothetical HYD portfolio with a beginning date of January 1979 (the longest period for which data was available for the HYD model and relevant indexes) through November 30, 2011\*.

	<u>1 mo</u> .	<u>1 yr.</u>	<u>5 yrs</u> .	<u>10 yrs</u> .	<u>20 yrs.</u>	Since 1/79	<u>Std. Dev.</u>
HYD Strategy	4.86	19.45	1.86	6.65	12.67	15.78	18.00
Russell 1000 Value Index	-0.52	6.17	-2.59	3.93	9.24	11.77	15.09
Dow	1.18	12.39	2.48	4.59	9.91	NA	NA

\*Data assume all purchases and sales at mid-month prices (+/-\$0.125 per share commissions), reinvestment of all dividends and interest, and no taxes. The 5-, 10- and 20-year total returns are annualized, as is the standard deviation of those returns since January 1979, where available. Model HYD calculations are based on hypothetical trades following a very exacting stock-selection strategy, and are gross of any management fees. They do not reflect returns on actual investments or previous recommendations of AIS. Past performance may differ from future results. Historical performance results for investment indexes and/or categories generally do not reflect the deduction of transaction and/or custodial charges or the deduction of an investment-management fee, the incurrence of which would have the effect of decreasing historical performance results.

### **RECENT MARKET STATISTICS**

Precious N	Aetals & Co	ommodity	Prices (\$)			Securitie	s Markets		
	1	2/15/11	Mo. Earlier	Yr. Earlier			12/15/11	Mo. Earlier	Yr. Earlier
Gold, London p.m. fix	king	1574.00	1785.00	1388.75	S & P 500 Stock Compo	site	1,215.75	1,257.81	1,235.23
Silver, London Spot Pi	rice	28.80	34.02	29.06	Dow Jones Industrial Av	erage	11,868.81	12,096.16	11,457.47
Copper, COMEX Spot	Price	3.26	3.50	4.13	Dow Jones Bond Averag	e	288.47	288.05	262.37
Crude Oil, W. Texas Ir	nt. Spot	93.21	99.36	88.61	Nasdag Composite		2.541.01	2.686.20	2.617.22
Dow Jones Spot Index	(	409.69	446.05	438.30	Financial Times Gold Mi	nes Index	3.367.15	3,933,17	3,940,24
Dow Jones-UBS Com	nodity Inde	x 136.26	148.94	154.61	ET EMEA (African) Go	ld Mines	3,187,53	3,638,05	3,648,00
Reuters-lefferies CRB	Index	294.45	320.87	318.84	ET Asia Pacific Gold N	lines	14,432,61	17.058.38	18,737,36
fielders Jenenes eng	maex	_,	520.07	510101	FT Americas Gold Mir	les	2.870.44	3.367.10	3,315,89
	Interest Ra	ates (%)					_,0, 0111	3,30,110	3,313103
		( )				Coin Pric	os (\$)		
U.S. Treasury bills -	91 day	0.00	0.01	0.14		Com Fric	es (\$)		
1	182 dav	0.05	0.05	0.20		12/15/11	Mo. Earlie	r Yr. Earlier	Prem (%)
	52 week	0.12	0.11	0.30	American Eagle (1.00)	1,713.50	1,835.40	1,442.68	8.86
U.S. Treasury bonds -	10 year	1.92	2.06	3.53	Austrian 100-Corona (0.9803)	1,611.03	1,729.13	1,356.63	4.41
Corporates:	7				British Sovereign (0.2354)	403.40	432.20	341.30	8.87
High Quality -	10+ year	3.90	3.93	5.17	Canadian Maple Leaf (1.00)	1,689.10	1,811.20	1,426.20	7.31
Medium Quality -	10+ ýear	5.19	5.20	6.27	Mexican 50-Peso (1.2057)	1,985.10	2,130.50	1,671.45	4.60
Federal Reserve Disco	ount Rate	0.75	0.75	0.75	Mexican Ounce (1.00)	1,667.00	1,787.60	1,406.90	5.91
New York Prime Rate		3.25	3.25	3.25	S. African Krugerrand (1.00)	1,687.38	1,809.18	1,424.78	7.20
Euro Rates	3 month	1.42	1.58	1.03	U.S. Double Eagle-\$20 (0.967	5)	,	,	
Government bonds -	<ul> <li>10 year</li> </ul>	1.97	1.73	2.97	St. Gaudens (MS-60)	1,740.00	1,802.50	1,520.00	14.26
Swiss Rates -	3 month	0.05	0.04	0.17	Liberty (Type I-AU50)	1,975.00	1,975.00	1,625.00	29.69
Government bonds -	- 10 year	0.73	0.84	1.83	Liberty (Type II-AU50)	1,867.50	1,855.00	1,560.00	22.63
	1				Liberty (Type III-AU50)	1,725.00	1,792.50	1,480.00	13.27
	Exchange	Rates (\$)			U.S. Silver Coins (\$1,000 face	value, circ	ulatéd)	,	
	0				90% Silver Circ. (715 oz.)	21,837.50	24,025.00	20,750.00	6.05
British Pound	1	.548600	1.581800	1.561300	40% Silver Circ. (292 oz.)	8,900.00	9,775.00	8,550.00	5.83
Canadian Dollar	0	.967305	0.977230	0.996711	Silver Dollars Circ.	24,325.00	26,500.00	22,700.00	9.18
Euro	1	.301300	1.352400	1.330600					
Japanese Yen	0	.012842	0.012989	0.011899	Note: Premium reflects percentage of	lifference bet	ween coin pric	e and value of	metal in
South African Rand	0	.119330	0.121950	0.146499	a coin, with gold at \$1574 per ounc	e and silver a	at \$28.80 per o	unce. The weig	ht in troy
Swiss Franc	1	.063603	1.089680	1.039609	ounces of the precious metal in coins	is indicated i	in parentheses.		

### THE DOW JONES INDUSTRIALS RANKED BY YIELD\*

							Lat	est Divider	nd	Indica	nted
	Ticker	Má	arket Prices	(\$)	12-Mon	th (\$)	F	Record		Annual	Yieldt
	Symbol	12/15/11	11/15/11	12/15/10	High	Low	Amount (\$)	Date	Paid	Dividend	(\$) (%)
AT&T	T	28.79	29.25	29.13	31.94	27.20	0.430	10/10/11	11/1/11	1.720	5.97
Verizon	VZ	38.42	37.24	34.63	38.95	32.28	0.500	1/10/12	2/1/12	2.000	5.21
Merck	MRK	36.36	35.73	36.66	37.65	29.47	0.420	12/15/11	1/9/12	1.680	4.62
Pfizer	PFE	21.14	19.87	17.08	21.45	16.63	0.220	2/03/12	3/6/12	0.880	4.16
General Electric	GE	16.79	16.20	17.49	21.65	14.02	0.170	12/27/11	1/25/12	0.680	4.05
Dupont	DD	43.70	48.30	49.24	57.00	37.10	0.410	11/15/11	12/14/11	1.640	3.75
Intel Corp	INTC	23.31	25.34	21.28	25.78 H	19.16	0.210	11/07/11	12/1/11	0.840	3.60
Johnson & Johnson	JNJ	64.00	64.99	62.57	68.05	57.50	0.570	11/29/11	12/13/11	2.280	3.56
Chevron	CVX	99.67	103.27	88.01	110.01	86.68	0.810	11/18/11	12/12/11	3.240	3.25
Procter and Gamble	PG	64.99	63.56	63.64	67.72	57.56	0.525	10/21/11	11/15/11	2.100	3.23
Kraft	KFT	36.46	35.48	31.48	36.90 H	30.21	0.290	12/30/11	1/13/12	1.160	3.18
J P Morgan	JPM	31.76	32.70	40.21	48.36	27.85	0.250	1/06/12	1/31/12	1.000	3.15
Microsoft Corp.	MSFT	25.56	26.74	27.85	29.46	23.65	0.200	2/16/12	3/8/12	0.800	3.13
Home Depot, Inc.	HD	39.42	38.07	34.79	40.93 H	28.13	0.290	12/01/11	12/15/11	1.160	2.94
Travelers	TRV	56.81	57.29	55.15	64.17	45.97	0.410	12/09/11	12/30/11	1.640	2.89
McDonald's	MCD	98.14	94.47	76.98	98.95 H	72.14	0.700	12/01/11	12/15/11	2.800	2.85
Coca-Cola	KO	66.89	68.00	64.74	71.77	61.29	0.470	12/01/11	12/15/11	1.880	2.81
3M Company	MMM	78.86	81.87	85.81	98.19	68.63	0.550	11/25/11	12/12/11	2.200	2.79
United Tech.	UTX	73.53	79.33	78.95	91.83	66.87	0.480	11/18/11	12/10/11	1.920	2.61
Wal-Mart Stores	WMT	57.95	57.46	54.23	59.40	48.31	0.365	3/11/11	4/4/11	1.460	2.52
Boeing	BA	70.61	67.94	64.24	80.65	56.01	0.440	2/10/12	3/2/12	1.760	2.49
Exxon Mobil	XOM	80.03	79.09	71.85	88.23	67.03	0.470	11/10/11	12/9/11	1.880	2.35
Caterpillar	CAT	87.70	97.07	93.12	116.55	67.54	0.460	1/20/12	2/18/12	1.840	2.10
Hewlett-Packard	HPQ	26.16	28.24	41.23	49.39	21.50	0.120	12/14/11	1/4/12	0.480	1.83
Walt Disney	DIS	35.19	36.45	36.95	44.34	28.19	0.600	12/16/11	1/18/12	0.600	1.71
IBM	IBM	187.48	188.75	144.72	194.90 <i>H</i>	144.15	0.750	11/10/11	12/10/11	3.000	1.60
American Express	AXP	46.42	49.95	46.12	53.80	41.25	0.180	1/06/12	2/10/12	0.720	1.55
Alcoa	AA	8.78	10.36	13.96	18.47	8.45	0.030	11/04/11	11/25/11	0.120	1.37
Cisco	CSCO	18.04	19.12	19.47	22.34	13.30	0.060	1/05/12	1/25/12	0.240	1.33
Bank of America	BAC	5.26	6.13	12.29	15.31	5.03 L	0.010	12/02/11	12/23/11	0.040	0.76

\* See the Recommended HYD Portfolio table on page 86 for current recommendations. † Based on indicated dividends and market price as of 12/15/11. Extra dividends are not included in annual yields. *H* New 52-week high. *L* New 52-week low. (s) All data adjusted for splits and spin-offs. 12-month data begins 12/16/11.

				Dascri	intive Ou	arterly St	atistics	r/102/01		3		Annualiz	ad Ratur	0 3E (%) 83C	f 11/30/1	1
	Security Symbol	Avg. Marke Avg. Mai	et Cap. / turity	No. of Holding	s Expense	ج <sup>7</sup> (%) Sh.	Ratic arpe Tui	os rnover (%)	P/B	12 Mo. Yield (%)	1 yr.	Total 3 yr.	5 yr.	1 yr.	After Tax 3 yr.	5 уг.
Short/Intermediate Fixed Income Vanguard Short-Term Bond Index iShares Barclays 1-3 Yr. Credit Bond	BSV <sup>1</sup> /VBISX CSJ <sup>1</sup>	( 2.70)	Ýrs. Ýrs.	1316 707	0.2	0 5 5	13 48	60 12		1.89 2.06	1.95 1.11	4.21 5.78	4.66	1.19 0.40	3.34 4.71	3.51
iShares Barclays 1-3 Year Treasury Vanguard Limited-Term Tax-Exempt SPDR Short-Term Municipal Bond	SHY <sup>1</sup> VMLTX SHM <sup>1</sup>	2.80 ) 2.80 ) 3.08 )	Yrs. Yrs. Yrs.	42 1499 356	0.1 0.2 0.2	0 2.1	53 00 77	85 14 25		0.91 2.23 1.32	1.19 1.26 2.44	1.57 7.19 3.57	3.57 4.22 	0.88 0.20 1.95	1.04 5.88 3.41	2.69 2.76 
Inflation-Protected Fixed Income iShares Barclays TIPS Bond Vanguard Inflation-Protected Securities	TIP <sup>1</sup> VIPSX	9.361	Yrs. Yrs.	33 32	0.2	0.0	93 90	13 29	11	4.24 3.77	11.55 11.25	12.07 11.84	7.28 7.08	9.81 9.73	10.76 10.95	5.78 5.81
<b>Real Estate</b> Vanguard REIT Index SPDR Dow Jones REIT	VNQ <sup>1</sup> /VGSi RWR <sup>1</sup>	IX <sup>2</sup> 6.46 6.92	B B	108 82	0.2	6 0. 0	15	12 10	2.3 1.9	3.77 3.45	8.49 9.20	26.49 26.35	-2.30 -3.39	7.19 8.01	24.74 24.62	-3.55 -4.63
<b>U.S. Large Cap Value</b> Vanguard Value Index iShares Russell 1000 Value Index	VTV'/VIVA) IWD <sup>1</sup>	x 45.66 31.15	5 B 9 B	415 655	0.2	0.0 0.0	07 04	27 24	1.6	2.69 2.42	6.42 5.96	11.10 11.17	-2.42 -2.69	6.03 5.29	10.63 10.64	-2.82 -3.11
<b>U.S. Small Cap Value</b> iShares Russell Microcap Index Vanguard Small-Cap Value Index	IWC <sup>1</sup> VBR <sup>1</sup> /VISVX	0.21 x 1.49	B B	1410 1024	0.6 0.2	0 0.	04 15	35 25	1.1	1.31 2.15	-2.57 2.06	14.50 17.61	-4.31 -0.42	-2.87 1.69	14.26 17.08	-4.48 -0.85
U.S. Large Cap Growth iShares Russell 1000 Growth Index Vanguard Growth Index	IWF <sup>1</sup> VUG <sup>1</sup> / VIGR	36.28 XX 36.15	3 B 9 B	590 431	0.2 0.2	0	30 27	24 26	3.5	1.47 1.15	8.42 8.06	18.63 18.19	2.47 2.55	8.00 7.89	18.28 17.99	2.23 2.39
<b>U.S. Marketwide</b> Vanguard Total Stock Market Index Fidelity Spartan Total Market Index	VTI'/VTSM) FSTMX <sup>3</sup>	x 27.07 26.14	7 B 4 B	3350 3203	0.1	7 0 0	18	r0 4	2.2 1.9	1.98 1.85	6.98 7.02	15.42 15.39	0.28 0.26	6.70 na	15.07 na	-0.01 na
Foreign- Developed Markets iShares MSCI Growth Index iShares MSCI Value Index Vanguard Europe Pacific Index Vanguard Developed Markets Index SPDR S&P International Small Cap	EFG' EFV' VEA'/VTMC VDMIX <sup>5</sup>	27.38 31.57 32.12 32.25 0.86	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	551 523 924 737	0.0 0.0 0.0 0.0 0.0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	05 03 06 25	27 6 13	1.1.8 1.1.0 1.4.1.0 1.0	2.41 4.52 3.32 2.44	-4.19 -4.36 -2.97 -2.79	11.02 8.79 10.51 10.52 17.93	-2.47 -5.64 -3.52 -3.62	-4.67 -5.24 -3.18 -3.25 -5.17	10.72 8.28 10.24 9.89 17.48	-2.68 -6.07 -4.15 
<b>Foreign- Emerging Markets</b> Vanguard Emerging Market Index	VWO1/VEIE	:X° 19.35	B	901	0.3	5 0.	31	12	2.0	1.87	-9.85	23.93	3.71	-10.74	23.16	3.21
<b>Gold-Related Funds</b> iShares COMEX Gold Trust SPDR Gold Shares	IAU <sup>1</sup> GLD <sup>1</sup>	 Recomm	Jended (	Gold-Mir	0.2 0.4 <b>1ing Con</b>	5 1.1 0 1.1 npanies	<b>(\$)</b> 33 33	0 0	1 1	0.00	25.78 25.71	28.44 28.43 Da	21.54 21.50 ta providec	25.78 25.71 d by the func	28.44 28.43 Is and Mor	21.54 21.50 ningstar. <sup>1</sup> Ex
Anglogold Ltd., ADR Barrick Gold Corp. + Gold Fields Ltd. Goldcorp, Inc. + Newmont Mining The information herein is derived fron Research, and the officers, employees,	Ticker Symbol AU ABX GG GG NEM n generally rel or other persc	12/15/11 41.24 44.19 15.10 45.35 61.76 61.76 liable source: ons affiliated	Month Earlier 47.39 52.30 17.47 52.97 69.64 s, but can with either	Year Farlier 49.23 52.53 17.94 45.85 60.57 not be gua not be gua	52-We High 51.69 55.95 55.95 18.70 56.31 72.42 72.42 ranteed. A	ek Low 38.97 42.50 13.62 39.04 50.05 50.05 merican Ir merican Ir	investment time have	Dividends I Last 12 Moi 0.3421 0.4335 0.2381 0.3494 1.0000 1.0000 1.5ervices, thi	Paid Paid C S S C C C C C C C C C C C C C C C C	Payment Payment Schedule emiannual donthly Quarterly an Institute for timents referred	Yield (%) 0.8295 0.9810 1.5768 0.7705 1.6192 Economic to herein.	change dempt for the for the for vangu ETFs' - the im the im situatif	e Traded Fu ion in 1 yr. dey for edem dey con 7 for 1 mutual Fu ard Funds, the highest the highest the time opact of sta ons. + Divic	ind, traded or "0.5% fee for % fee for puton in 5 yrs % fee for puton in 5 yrs vanguard funn vanguard funn returns show returns show deviata fee individual fee individual fee ind shown is dend shown is	n NYSE. 21 rredemptic . 52% fee fc hee fc hee and ( he lower e we lower e rn are for N n are for N n are for N tares and i taxes and i taxes and i	% fee for re n in 90 days n redemption 1.25% fee for Ratios showin Ratios showin Ratios showin Lutual Funds n. Calculate e tax rates it do not reflec ndividual tax Canadian tax

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